

IN THE CLAIMS

Please amend the claims as indicated below.

1-19. (canceled)

20. (previously amended) A method for making wafer-level chip scale package, comprising:

providing a chip pad over a substrate;

providing a re-distributed line (RDL) pattern on the chip pad;

providing an insulating layer covering a portion of the RDL pattern, wherein the insulating layer comprises a non-polymeric dielectric material; and

providing a stud bump directly on the portion of the RDL pattern not covered by the insulating layer.

21. (original) The method of claim 20, further comprising providing a solder ball on the stud bump.

22. (original) The method of claim 20, wherein the insulating layer comprises silicon nitride, silicon oxide, or silicon oxynitride.

23. (currently amended) The method of claim 20, wherein there is no under bump metal under the stud bump.

24. (previously amended) A method for making wafer-level chip scale package, comprising:

providing a substrate with a passivation layer on a portion thereof;

forming a chip pad on a portion of the substrate not containing the passivation layer;

forming a metal layer on the chip pad and a portion of the passivation layer;

forming an insulating layer on a portion of the metal layer, wherein the insulating layer comprises a non-polymeric dielectric material; and

forming a stud bump directly on the portion of the metal layer not covered by the insulating layer.

25. (original) The method of claim 24, further comprising providing a solder ball on the stud bump.

26. (original) The method of claim 24, wherein the insulating layer comprises silicon nitride, silicon oxide, or silicon oxynitride.

27. (original) The method of claim 24, including forming the insulating layer without using a high temperature curing process.

28. (currently amended) The method of claim 24, wherein there is no under bump metal under the stud bump.

29. (original) The method of claim 24, including forming the stud bump by an electroplating process or by wire bonding.

30. (original) The method of claim 29, including forming the stud bump by wire bonding a Pd coated copper wire to the RDL pattern using a capillary.

31. (original) The method of claim 30, wherein the wire bonding process provides the stud bump with a coined shape.

32. (previously amended) A method for making a package semiconductor device, comprising:

providing a chip pad over a substrate;

providing a re-distributed line (RDL) pattern on the chip pad;

providing an insulating layer covering a portion of the RDL pattern, wherein the insulating layer comprises a non-polymeric dielectric material; and

providing a stud bump directly on the portion of the RDL pattern not covered by the insulating layer.

33. (previously amended) A method for making an electronic apparatus containing a packaged semiconductor device, the method comprising:

providing a packaged semiconductor device containing a chip pad over a substrate, a re-distributed line (RDL) pattern on the chip pad, an insulating layer covering a portion of the RDL pattern with the insulating layer comprising a non-polymeric dielectric material, and then providing a stud bump directly on the portion of the RDL pattern not covered by the insulating layer; and

mounting the packaged semiconductor device on a circuit board.

34. (previously added) A method for making wafer-level chip scale package, comprising:

providing a chip pad over a substrate;

providing a re-distributed line (RDL) pattern on the chip pad;

providing an insulating layer covering a portion of the RDL pattern; and
providing a stud bump on the portion of the RDL pattern not covered by the insulating layer without using an under bump metal.

35. (previously added) The method of claim 34, further comprising providing a solder ball on the stud bump.

36. (previously added) The method of claim 34, including forming the stud bump by an electroplating process or by wire bonding.

37. (previously added) The method of claim 36, including forming the stud bump by wire bonding a Pd coated copper wire to the RDL pattern using a capillary.

38. (previously added) The method of claim 34, wherein the insulating layer comprises a non-polymeric dielectric material.

39. (previously added) The method of claim 38, wherein the insulating layer comprises silicon nitride, silicon oxide, or silicon oxynitride.

40. (previously added) The method of claim 34, including forming the insulating layer without using a high temperature curing process.

41. (currently amended) A method for making wafer-level chip scale package, comprising:

providing a chip pad over a substrate;
providing a single-layer re-distributed line (RDL) pattern directly on the chip pad;
providing an insulating layer covering a portion of the RDL pattern; and
providing a stud bump on the portion of the RDL pattern not covered by the insulating layer.

42. (previously added) The method of claim 41, further comprising providing a solder ball on the stud bump.

43. (previously added) The method of claim 41, including forming the stud bump by an electroplating process or by wire bonding.

44. (previously added) The method of claim 43, including forming the stud bump by wire bonding a Pd coated copper wire to the RDL pattern using a capillary.

45. (previously added) The method of claim 41, wherein the insulating layer comprises a non-polymeric dielectric material.

46. (previously added) The method of claim 45, wherein the insulating layer comprises silicon nitride, silicon oxide, or silicon oxynitride.

47. (previously added) The method of claim 41, including forming the insulating layer without using a high temperature curing process.

48. (new) A method for making wafer-level chip scale package, comprising:
providing a chip pad over a substrate;
providing a re-distributed line (RDL) pattern on the chip pad without using an under bump metal;
providing an insulating layer covering a portion of the RDL pattern;
providing a stud bump on the portion of the RDL pattern not covered by the insulating layer; and
providing a solder ball on the stud bump.